Organotypic slice culture of E18 rat brains.

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Public Summary:

Scientific Abstract:
Organotypic slice cultures from embryonic rodent brains are widely used to study brain development. While there are often advantages to an in-vivo system, organotypic slice cultures allow one to perform a number of manipulations that are not presently feasible in-vivo. To date, organtotypic embryonic brain slice cultures have been used to follow individual cells using time-lapse microscopy, manipulate the expression of genes in the ganglionic emanances (a region that is hard to target by in-utero electroporation), as well as for pharmacological studies. In this video protocol we demonstrate how to make organotypic slice cultures from rat embryonic day 18 embryos. The protocol involves dissecting the embryos, embedding them on ice in low melt agarose, slicing the embedded brains on the vibratome, and finally plating the slices onto filters in culture dishes. This protocol is also applicable in its present form to making organotypic slice cultures from different embryonic ages for both rats and mice.